Preliminary Research on Antidegradation Analysis for the Leavenworth NFH

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The following describes background on anti-degradation, sources of information, and potential options to move forward on anti-degradation for the Leavenworth NFH. This is a work in progress and is meant for discussion purposes as the agencies work together.

1. When is an anti-degradation analysis needed for a 401 certification in permitting?

Section 401 of the Clean Water Act states that EPA may not issue a final permit until the State or tribe where the discharge originates has granted or waived 401 certification. The State and tribes must either certify that the permit complies with State or tribal water quality standards, or waive certification before the final permit is issued.

Antidegradation requirements are part of federal and state regulations that are part of the water quality standards, which EPA is required to meet when establishing NPDES permits. There are three ties of antidegradation analysis. Depending on whether the water is impaired (Tier I), of higher quality than the water quality standards (Tier II), or outstanding waters (Tier III), there are different analyses.

2. Who is responsible for doing the anti-degradation analysis?

Federal regulations and the State of Washington both establish water quality antidegradation programs for surface waters. It is unclear whether one entity must legally do the anti-degradation analysis. However, since there are state-specific anti-degradation rules and recommended guidance, EPA's experience has been that the State typically completes the anti-degradation analysis or requests the permittee to complete the analysis and reviews that.

3. What does the analysis include? Washington standards lay out requirements for each tier as follows:

WAC 173-201A-310 ***Tier I—Protection and maintenance of existing and designated uses.***

(1) Existing and designated uses must be maintained and protected. No degradation may be allowed that would interfere with, or become injurious to, existing or designated uses, except as provided for in this chapter.

(2) For waters that do not meet assigned criteria, or protect existing or designated uses, the department will take appropriate and definitive steps to bring the water quality back into compliance with the water quality standards.

(3) Whenever the natural conditions of a water body are of a lower quality than the assigned criteria, the natural conditions constitute the water quality criteria. Where water quality criteria are not met because of natural conditions, human actions are not allowed to further lower the water quality, except where explicitly allowed in this chapter.

WAC 173-201A-320. ***Tier II - Protection of waters of higher quality than the standards.***

(1) Whenever a water quality constituent is of a higher quality than a criterion designated for that water under this chapter, new or expanded actions within the categories identified in subsection (2) of this section that are expected to cause a measurable change in the quality of the water (see subsection (3) of this section) may not be allowed unless the department determines that

the lowering of water quality is necessary and in the overriding public interest (see subsection (4) of this section).

WAC 173-201A-330. ***Tier III—Protection of outstanding resource waters.***

Where a high quality water is designated as an outstanding resource water, the water quality and uses of those waters must be maintained and protected. As part of the public process, a qualifying water body may be designated as Tier III(A) which prohibits any and all future degradation, or Tier III(B) which allows for de minimis (below measurable amounts) degradation from well-controlled activities.

4. For the LNFH facility, is a Tier 1 or Tier 2 analysis required?

The following are Washington's definition of Tier 1 and Tier 2 waters:

- **Tier I**. WAC 173-201A-310
  Tier I is used to ensure existing and designated uses are maintained and protected. It does this by focusing on fully applying the water quality criteria and correcting problems using our existing regulatory and TMDL processes. Tier I applies to all waters and all sources of pollution.
- **Tier II**. WAC 173-201A-320
  Tier II is used to ensure that waters of a higher quality than the criteria assigned in the standards are not degraded unless such lowering of water quality is necessary and in the overriding public interest. Tier II applies only to new or expanded sources of pollution from specific types of activities directly regulated by Ecology (e.g., NPDES, 401, 404, Forest Practices).

In the past, Ecology determined that the LNFH needed a Tier II analysis, which LNFH completed on April 30, 2008. This was before the Wenatchee River DO and pH TMDL was completed in 2009.

Based on the definitions, it appears that a Tier I analysis could have been done instead of a Tier II analysis, since Icicle Creek is impaired for DO, pH, and temperature, and therefore not "of a higher quality than the criteria assigned in the standards" as described in what is needed for a Tier II analysis. In particular, at this point, since a TMDL has been completed, and final permit limits are consistent with the TMDL which are written to meet Washington water quality standards, it appears that a Tier I analysis would be the most appropriate.[1]

However, since a Tier II analysis has been completed, we may also explore the possibility of whether the hatchery's facility is new or expanded as defined in . Otherwise, it may be possible to take elements of that report and use it in the antidegradation analysis in the 401 certification.

5. For the LNFH facility, what is the baseline to compare current operations for anti- (1979, 2008)?
To be answered later if needed.

[1] *From the Washington Hatchery General Permit BE page 48. "A facility must first meet Tier I requirements. Existing and designated uses must be maintained and protected. No degradation may be allowed that would interfere with, or become injurious to, existing or designated uses, except as provided for in Chapter 173-201A WAC. In order to protect and maintain designated and existing beneficial uses, a permitted discharge must comply with the narrative and numeric criteria of the State/Tribe's water quality standards, which address water quality limited waters. Water bodies not supporting existing or designated beneficial uses must be identified as water quality limited and a TMDL must be prepared for those pollutants causing the impairment. Discharge permits must contain limitations that are consistent with the WLAs in the EPA-approved TMDL. A permit with effluent limitations consistent with the WLA from an applicable TMDL will provide the level of water quality necessary to support existing and designated uses and therefore satisfies Tier 1 antidegradation requirements."*

6. **For the LNFH facility, can the 2008 anti-deg analysis be used for the 2017 401 cert? If no, can elements of it be used?**
   To be answered later if needed.

7. **What are potential options for moving forward on the anti-degradation analysis?**

   1. **Option 1**: A Tier 1 analysis is needed, and since the final permit limit is consistent with an approved TMDL which meets water quality standards, the final permit should satisfy Tier I anti-degradation requirements. (Note that the hatchery completed a Tier II analysis in 2008, but the TMDL was not approved by EPA until 2009.)

   2. **Option 2**: Since the hatchery completed a Tier II analysis on April 30, 2008, if there are no new or expanded discharges, then the 2008 analysis should be sufficient.

   3. **Option 3**: A Tier II analysis is needed, and there are new or expanded discharges. Supplement the 2008 analysis to update the discharge information and other analysis.

Sources:

Washington Department of Ecology. *Water Quality Program Guidance Manual: Supplemental Guidnace on Implementing Tier II Antidegradation*. Publication No. 11-10-073. September 2011.

Washington Department of Ecology. Antidegradation:
http://www.ecy.wa.gov/programs/wq/swqs/antideg.html

EPA, 2015. *Fact Sheet for Washington Hatcheries General Permit*, pages 47-50.
https://www3.epa.gov/region10/pdf/permits/npdes/wa/WA_Hatchery_GP_WAG130000_FS.pdf